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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/632,565	08/01/2003	Atushi Honda	81868.0101	2597

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EXAMINER

KIM, CHONG HWA

ART UNIT PAPER NUMBER

3682

DATE MAILED: 10/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/632,565

Applicant(s)

HONDA ET AL.

Examiner

Chong H. Kim

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 06 September 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,3-6 and 12-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-6 and 12-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 3, 5, 6, and 12-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Han, U.S. Patent 6,731,588 B2 in view of Kotone et al., U.S. Patent 3,891,470.

Han shows, in Fig. 24, an automatic balancing device comprising: a hollow housing case body 120, 121 rotated with a rotary body 140 and having an annular space 150 formed inside of the hollow housing case body; a plurality of balance balls 170 accommodated in the annular space of the hollow housing case body in a freely movable manner so as to cancel an imbalance of the rotary body; a film of a rust preventing agent (an antioxidant material as described in col. 15, lines 1-7) formed on a surface of the plurality of balance balls or on a surface 121 on which the plurality of balance balls move (see col. 15, lines 17-24); wherein the annular space of the hollow housing case body in which the balance balls are accommodated is formed in a sealed state and the rust preventing agent is contained in the sealed annular space; wherein the hollow housing case body includes an upper ring-shaped annular member 120 or 121; wherein the upper ring shaped annular member has a cup shape; wherein the upper ring-shaped annular member is made of a resin material (see col. 15, lines 22-24 and col. 8, lines 49-58); wherein a height and width of the hollow housing case body is larger than a height and width of the plurality of

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balance balls; and wherein the balance balls are formed of chrome steel (see col. 14, lines 60-67 and col. 10, lines 55-58); but fails to show the rust preventing agent being volatile.

Kotone et al. discloses, in col. 1, lines 37-44, that a coated volatile corrosion inhibitor, such as diisopropylamine nitrite, can be applied to iron or steel materials and would be vaporized in the annular space at room temperature.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the coated antioxidant material, such as plated nickel, of Han with the volatile corrosion inhibitor as taught by Kotone et al. in order to provide a more inexpensive way to prevent corrosion so that the cost of making the device is reduced.

3. Claims 1, 4-6, and 12-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamaguchi, U.S. Patent 6,525,441 B2 in view of Han, in view of Kotone, and in view of Shiraki et al., U.S. Patent 5,401,571.

Yamaguchi shows, in Fig. 3, an automatic balancing device comprising: a hollow housing case body 11 rotated with a rotary body 2 and having an annular space formed inside of the hollow housing case body; a plurality of balance balls B accommodated in the annular space of the hollow housing case body in a freely movable manner so as to cancel an imbalance of the rotary body; a magnet body 44 disposed in a space formed in the hollow housing case body, and the balance balls are respectively formed with steel (col. 3, line 56) having a magnetism, the magnet body exerts magnetic action so that the steel balls can be repulsive to each other, the space in which the magnet body is disposed and the annular space in which the balance balls are accommodated are in communication with each other; wherein the hollow housing case body

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includes an upper ring-shaped annular member; wherein the upper ring shaped annular member has a cup shape; wherein a height and width of the hollow housing case body is larger than a height and width of the plurality of balance balls; but fails to show a volatile rust preventing agent formed either on the balance balls or on the surface of the case body, a sealed annular space that contains the volatile rust preventing agent in a vapor state, and impregnated on the magnetic body; and the upper ring shaped member being made of a resin material.

As to the matter of the volatile rust preventing agent formed either on the balance balls or on the surface of the case body, Han teaches, as discussed above in the rejection of claim 1, that a film of a rust preventing agent (an antioxidant material as described in col. 15, lines 1-7) can be formed on a surface of the plurality of balance balls or on a surface 121 on which the plurality of balance balls move (see col. 15, lines 17-24) that is disposed within the annular space that is sealed to keep the rust preventing agent from escaping.

Furthermore, Kotone et al. discloses, in col. 1, lines 37-44, that a coated volatile corrosion inhibitor, such as diisopropylamine nitrite, can be applied to iron or steel materials and would be vaporized in the annular space at room temperature.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply the volatile corrosion inhibitor on the balance balls or the inner surface of the housing of Yamaguchi as taught by Han and Kotone in order to prevent the balance balls from erratically moving in the case due to oxidation and corrosion of the balls, as described by Han, in col. 15, lines 1-7 and in order to provide a more inexpensive way to prevent corrosion so that the cost of making the device is reduced.

As to the matter of the sealed annular space, it would have been obvious to a person of ordinary skill in the art to modify the open annular space of Yamguchi with the sealed and closed annular space as taught by Han in order to keep the volatile rust preventing agent from escaping thus keeping the balancing balls from rusting and help the device last longer.

As to the matter of the volatile rust preventing agent being impregnated in the magnetic body, Shiraki et al. teaches, in col. 7, lines 31-35 and col. 8, lines 22-33, a magnetic material may contain a volatile rust preventing agent.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply the rust preventing agent as taught by Shiraki et al. in the magnetic body of Yamaguchi in order to prevent rusting or corrosion so that the device may last longer.

As to the matter of the material of the casing, it would have been obvious to make the balancer housing of Yamaguchi with resin material since the Examiner takes Official Notice of the fact that utilizing resin material such as plastic to form a casing is well known practice in the art of balancer and the selection of any known material to house the balance balls would be within the level of ordinary skill in the art.

#### ***Response to Arguments***

4. In response to the applicant's argument that Kotone fails to disclose the volatile rust preventing agent in a vaporized state, it is reminded that the applicant's own specification discloses, in paragraph [0039], that one of the volatile rust preventing agents can be diisopropylamine nitrite. And further discloses, in paragraph [0040], that this volatile rust preventing agent vaporizes at room temperature. Therefore, the volatile rust preventing agent as

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disclosed by Kotone, which is the same agent as disclosed by the applicant, inherently vaporizes at room temperature.

5. Applicant's arguments with respect to the rejection over Yamaguchi have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

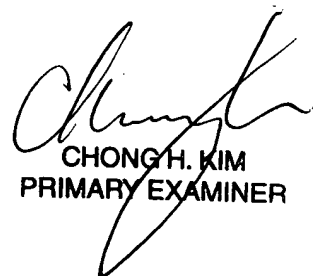
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chong H. Kim whose telephone number is (571) 272-7108. The examiner can normally be reached on Monday - Friday; 6:00 - 2:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Ridley can be reached on (571) 272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

chk  
October 23, 2006

  
CHONG H. KIM  
PRIMARY EXAMINER